




Hong Kong

Test Report IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1: 2006 Information technology equipment – Safety – Part 1: General requirements	
Report Reference No.	60.860.8.048.01L
Reviewed by (name + signature)	 (Jeff Pong)
Model name	DECT20-B94-RF19
Date of issue	06-May-2008
Total number of pages	54
CB/CCA Testing Laboratory	TUV SUD Hong Kong Ltd.
Address	Unit 601, Innocentre, 72 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong.
Applicant's name	SunCorp Communications Limited
Address	--
Manufacturer's name	Shenzhen Guo Wei Electronics Co., Ltd.
Address	--
Factory's name	--
Address	--
Test specification	
Standard	EN 60950-1:2006
Test procedure	CB / CCA
Non-standard test method	N/A
Test Report Form No.	IECEN60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd.
Master TRF	Dated 2007-01

Report No. 60.860.8.048.01L



Hong Kong

Copyright © 2006 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.

This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA

Test item description.:	DECT Phone
Trade Mark.....:	SunCorp Communications Limited
Manufacturer	Shenzhen Guo Wei Electronics Co., Ltd.
Model/Type reference.....:	DECT20-B94-RF19
Ratings.....:	6.5Vd.c., 300mA



Hong Kong


Summary of testing:	
Tests performed (name of test and test clause): See below for detail.	Testing location: - T02
Summary of compliance with National Differences: N.A.	

Copy of marking plate

Model: DECT20-B94-RF19

6.5VDC/300mA

Made In China



+ -

- +

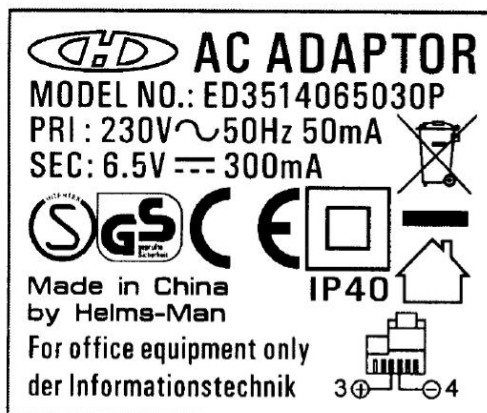
Ni-MH 1.2V/550mAH AAA x 2

Caution:

- Risk of explosion if battery is placed by an incorrect type
- Dispose of used batteries according to the instructions

Base label

Handset label



Power supply label

Test item particulars.	
Equipment mobility	Base (Movable) Handset (hand-held)
Connection to the mains	not directly connected to the mains
Operating condition	continuous
Over voltage category (OVC)	--
Mains supply tolerance (%).....	--
Tested for IT power systems.....	No
IT testing, phase-phase voltage (V)	--
Class of equipment.....	Class III
Pollution degree (PD)	PD 2
IP protection class	IP20
Altitude during operation (m)	Less than 2000m above sea level
Mass of equipment (kg)	0.195Kg (Excluding power supply and battery)
Possible test case verdicts:	
-test case does not apply to the test object	N (N.A.)
-test object does meet the requirement.....	P (Pass)
-test object does not meet the requirement.....	F (Fail)
Testing	
Date of receipt of test item	2008-04-07
Date(s) of performance of tests	2008-04-16 to 2008-04-18
General remarks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.</p>	



Hong Kong

General product information:

DECT phone Model / Type: DECT20-B94-RF19

The DECT phone consists of a base, a cordless handset and an associated power supplies.

The handset is operated with two AAA size, 1.2V, Ni-MH type, cylindrical rechargeable batteries while the base is supplied by a power supply of model ED3514065030P.

The below test items apply to the base and handset only. No tests were conducted to power supply unit.

Appendix: 5 pages for product photographs.

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
1	GENERAL		—
1.5	Components		—
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N
1.5.4	Transformers		N
1.5.5	Interconnecting cables		N
1.5.6	Capacitors bridging insulation		N
1.5.7	Resistors bridging insulation		N
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N
1.5.7.4	Accessible parts	Class III	N
1.5.8	Components in equipment for IT power systems	Not for IT power systems	N
1.5.9	Surge suppressors		N
1.5.9.1	General		N
1.5.9.2	Protection of VDRs		N
1.5.9.3	Bridging of functional insulation by a VDR		N
1.5.9.4	Bridging of basic insulation by a VDR		N
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N
1.6	Power interface		—
1.6.1	AC power distribution systems	Certified power supply	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	<250V	P
1.6.4	Neutral conductor		N
1.7	Marking and instructions		—



Hong Kong

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	6.5Vd.c. (Base) 2x1.2Vd.c. (Handset)	P
	Symbol for nature of supply, for d.c. only		N
	Rated frequency or rated frequency range (Hz)		N
	Rated current (mA or A)	300mA (Base)	P
	Manufacturer's name or trade-mark or identification mark	SunCorp Communications Limited	P
	Model identification or type reference	DECT20-B94-RF19	P
	Symbol for Class II equipment only	Class III	N
	Other markings and symbols		N
1.7.2	Safety instructions and marking	Not a permanently connected or pluggable equipment	N
1.7.2.1	General		N
1.7.2.2	Disconnect devices		N
1.7.2.3	Overcurrent protective device		N
1.7.2.4	IT power distribution systems		N
1.7.2.5	Operator access with a tool		N
1.7.2.6	Ozone		N
1.7.3	Short duty cycles	Continuous operation	N
1.7.4	Supply voltage adjustment	No supply voltage adjustment	N
	Methods and means of adjustment; reference to installation instructions		N
1.7.5	Power outlets on the equipment		N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N
1.7.7	Wiring terminals		N
1.7.7.1	Protective earthing and bonding terminals	No earthing	N
1.7.7.2	Terminals for a.c. mains supply conductors	Plug-in power supply	N
1.7.7.3	Terminals for d.c. mains supply conductors		N
1.7.8	Controls and indicators	No control and indicators	N
1.7.8.1	Identification, location and marking		N
1.7.8.2	Colours		N
1.7.8.3	Symbols according to IEC 60417.....		N
1.7.8.4	Markings using figures		N
1.7.9	Isolation of multiple power sources	Single supply connection by certified power supply	N

Report No. 60.860.8.048.01L



Hong Kong

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
1.7.10	Thermostats and other regulating devices	Not applied for IT power systems	N
1.7.11	Durability		P
1.7.12	Removable parts	Marking not placed on removable parts	P
1.7.13	Replaceable batteries		P
	Language(s)		—
1.7.14	Equipment for restricted access locations.....	No restricted access locations	N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

2	PROTECTION FROM HAZARDS		—
2.1	Protection from electric shock and energy hazards		—
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts	No bare parts of the TNV circuit can be touched	P
	Test by inspection	No bare parts of the TNV circuit can be touched	P
	Test with test finger (Figure 2A)	No bare parts of the TNV circuit can be touched	P
	Test with test pin (Figure 2B)		N
	Test with test probe (Figure 2C)	No bare parts of the TNV circuit can be touched	P
2.1.1.2	Battery compartments		N
2.1.1.3	Access to ELV wiring	No ELV circuit	N
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)	(see appended table 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring		N
2.1.1.5	Energy hazards	No hazardous energy level	N
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in equipment	No such components	N
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N
	a) Capacitor connected to the d.c. mains supply		N
	b) Internal battery connected to the d.c. mains supply		N
2.1.1.9	Audio amplifiers		N
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N

2.2	SELV circuits		—
2.2.1	General requirements		P
2.2.2	Voltages under normal conditions (V)	6.5Vd.c. (Base) 2X1.2Vd.c. (Handset)	P
2.2.3	Voltages under fault conditions (V)	<71V _{peak} (120Vd.c.)	P
2.2.4	Connection of SELV circuits to other circuits		N

2.3	TNV circuits		—
-----	--------------	--	---

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
2.3.1	Limits		P
	Type of TNV circuits.....	TNV-3 circuit	—
2.3.2	Separation from other circuits and from accessible parts	See below	P
2.3.2.1	General requirements		P
2.3.2.2	Protection by basic insulation	Between SELV and TNV-3 circuit	P
2.3.2.3	Protection by earthing		N
2.3.2.4	Protection by other constructions		N
2.3.3	Separation from hazardous voltages		P
	Insulation employed	Certified power supply provided and separated by reinforced or double insulation	—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		P

2.4	Limited current circuits		—
2.4.1	General requirements	No LCC	N
2.4.2	Limit values		N
	Frequency (Hz)		—
	Measured current (mA).....		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or μ F).....		—
2.4.3	Connection of limited current circuits to other circuits		N

2.5	Limited power sources		—
	a) Inherently limited output	Before short circuit: $V_{oc} = 2.76V_{d.c.}$ After short circuit: $V_{sc} = 0.49V_{d.c.}$, $I_{sc} = 2.84A$ Max. Power: $1.39VA < 100VA$	P
	b) Impedance limited output		N
	c) Regulating network limited output under normal operating and single fault condition		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
	d) Overcurrent protective device limited output		N
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	Max. output voltage (V): ≤30Vd.c. (normal operation) ≤30Vd.c. (short circuit) max. output current (A): ≤8A (short circuit) max. apparent power (VA): ≤100 (short circuit)	—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		—
2.6.1	Protective earthing	Class III product	N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	General		N
2.6.3.2	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N
2.6.3.5	Colour of insulation		N
2.6.4	Terminals		N
2.6.4.1	General		N
2.6.4.2	Protective earthing and bonding terminals		N
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing		N
2.6.5.1	Interconnection of equipment		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network or cable distribution system		N

2.7	Overcurrent and earth fault protection in primary circuits		—
2.7.1	Basic requirements	Class III product	N
	Instructions when protection relies on building installation		N
2.7.2	Faults not simulated in 5.3.7		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices ...		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel		N

2.8	Safety interlocks		—
2.8.1	General principles	No safety interlocks	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches and relays		N
2.8.7.1	Contact gaps (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test	(see appended table 5.2)	N
2.8.8	Mechanical actuators		N

2.9	Electrical insulation		—
2.9.1	Properties of insulating materials		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
2.9.2	Humidity conditioning		P
	Relative humidity (%), temperature (°C)	Relative humidity: 93% Temperature: 25°C	—
2.9.3	Grade of insulation	Basic insulation between TNV-3 and unearthed SELV circuit. Others in functional insulation	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used		—

2.10	Clearances, creepage distances and distances through insulation		—
2.10.1	General		N
2.10.1.1	Frequency		N
2.10.1.2	Pollution degrees	Pollution Degree 2	—
2.10.1.3	Reduced values for functional insulation		N
2.10.1.4	Intervening unconnected conductive parts		N
2.10.1.5	Insulation with varying dimensions		N
2.10.1.6	Special separation requirements		N
2.10.1.7	Insulation in circuits generating starting pulses		N
2.10.2	Determination of working voltage	6.5Vd.c. (Base) 2X1.2Vd.c. (Handset)	N
2.10.2.1	General		N
2.10.2.2	RMS working voltage		N
2.10.2.3	Peak working voltage		N
2.10.3	Clearances		P
2.10.3.1	General		N
2.10.3.2	Mains transient voltages		N
	a) AC mains supply		N
	b) Earthed d.c. mains supplies		N
	c) Unearthed d.c. mains supplies		N
	d) Battery operation	71V _{peak}	—
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.4	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.5	Clearances in circuits having starting pulses	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.6	Transients from a.c. mains supply		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
2.10.3.7	Transients from d.c. mains supply		N
2.10.3.8	Transients from telecommunication networks and cable distribution systems	1500V peak	—
2.10.3.9	Measurement of transient voltage levels		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network :		N
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests.....	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	No requirement for distance through insulation for basic insulation	N
2.10.5.1	General		N
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	N
2.10.5.3	Insulating compound as solid insulation		N
2.10.5.4	Semiconductor devices		N
2.10.5.5	Cemented joints	(see appended table 2.10.3 and 2.10.4)	N
2.10.5.6	Thin sheet material – General		N
2.10.5.7	Separable thin sheet material		N
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N
2.10.5.9	Thin sheet material – standard test procedure		N
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure		N
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components		N
2.10.5.12	Wire in wound components		N
	Working voltage		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
	a) Basic insulation not under stress		N
	b) Basic, supplementary, reinforced insulation		N
	c) Compliance with Annex U		N
	Two wires in contact inside wound component; angle between 45° and 90°		N
2.10.5.13	Wire with solvent-based enamel in wound components		N
	Electric strength test	(see appended table 2.10.5)	—
	Routine test		N
2.10.5.14	Additional insulation in wound components		N
	Working voltage		N
	- Basic insulation not under stress		N
	- Supplementary, reinforced insulation		N
2.10.6	Construction of printed boards		N
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.2	Coated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.4	Insulation between conductors on different layers of a printed board		N
	Distance through insulation	(see appended table 2.10.5)	N
	Number of insulation layers (pcs)		N
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	N
2.10.8	Tests on coated printed boards and coated components		N
2.10.8.1	Sample preparation and preliminary inspection		N
2.10.8.2	Thermal conditioning		N
2.10.8.3	Electric strength test		N
2.10.8.4	Abrasion resistance test		N
2.10.9	Thermal cycling		N
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N
2.10.11	Tests for semiconductor devices and cemented joints		N



Hong Kong

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
2.10.12	Enclosed and sealed parts		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

3	WIRING, CONNECTIONS AND SUPPLY		—
3.1	General		—
3.1.1	Current rating and overcurrent protection		N
3.1.2	Protection against mechanical damage	Wireway is free from sharp edge	P
3.1.3	Securing of internal wiring	Internal wiring was fixed by glue	P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators		N
3.1.6	Screws for electrical contact pressure	No such components	N
3.1.7	Insulating materials in electrical connections	No electrical connections that rely on insulation material for adequate contact pressure	N
3.1.8	Self-tapping and spaced thread screws	No such components	N
3.1.9	Termination of conductors	All conductors connected by soldering	P
	10 N pull test		P
3.1.10	Sleeving on wiring	No sleeving is used	N

3.2	Connection to a mains supply		—
3.2.1	Means of connection	Class III product	N
3.2.1.1	Connection to an a.c. mains supply		N
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections	Single supply connection	N
3.2.3	Permanently connected equipment	Not a permanently connected equipment	N
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
3.2.5.1	AC power supply cords		N
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
3.2.8	Cord guards		N
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		—
3.3.1	Wiring terminals	No such components	N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N
3.4	Disconnection from the mains supply		—
3.4.1	General requirement	Class III product	N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Number of poles - single-phase and d.c. equipment		N
3.4.7	Number of poles - three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N
3.5	Interconnection of equipment		—
3.5.1	General requirements		P



Hong Kong

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
3.5.2	Types of interconnection circuits	Connected to TNV-3 circuit	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuit	N
3.5.4	Data ports for additional equipment		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

4	PHYSICAL REQUIREMENTS		—
4.1	Stability		—
	Angle of 10°	<7Kg	N
	Test force (N)	No a floor-standing unit	N

4.2	Mechanical strength		—
4.2.1	General		P
4.2.2	Steady force test, 10 N		N
4.2.3	Steady force test, 30 N		P
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		P
	Fall test	1300mm (Base)	P
	Swing test	1300mm (Base)	P
4.2.6	Drop test; height (mm)	1000mm (Handset)	P
4.2.7	Stress relief test		P
4.2.8	Cathode ray tubes	No Cathode ray tubes	N
	Picture tube separately certified	(see separate test report or attached certificate)	N
4.2.9	High pressure lamps	No such components	N
4.2.10	Wall or ceiling mounted equipment; force (N)		N

4.3	Design and construction		—
4.3.1	Edges and corners	Rounded and smoothed	P
4.3.2	Handles and manual controls; force (N)	No such control	N
4.3.3	Adjustable controls	No such control	N
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	No such components	N
4.3.6	Direct plug-in equipment	Certified direct plug-in power supply	N
	Torque		—
	Compliance with the relevant mains plug standard		N
4.3.7	Heating elements in earthed equipment	No such design	N
4.3.8	Batteries		P
	- Overcharging of a rechargeable battery		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
	- Unintentional charging of a non-rechargeable battery		N
	- Reverse charging of a rechargeable battery		N
	- Excessive discharging rate for any battery		P
4.3.9	Oil and grease		N
4.3.10	Dust, powders, liquids and gases		N
4.3.11	Containers for liquids or gases	No containers	N
4.3.12	Flammable liquids		N
	Quantity of liquid (l)		N
	Flash point (°C)		N
4.3.13	Radiation	No radiation	N
4.3.13.1	General		N
4.3.13.2	Ionizing radiation		N
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N
	Part, property, retention after test, flammability classification		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N
4.3.13.5	Laser (including LEDs)	(see separate test report of IEC/EN 60825-1 / IEC/EN 60825-2)	N
	Laser class		—
4.3.13.6	Other types		N
4.4	Protection against hazardous moving parts		—
4.4.1	General		N
4.4.2	Protection in operator access areas		N
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N
4.5	Thermal requirements		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	N
4.6	Openings in enclosures		—
4.6.1	Top and side openings		N
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N
	Construction of the bottom, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures		N
4.6.4	Openings in transportable equipment		N
4.6.4.1	Constructional design measures		N
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N
4.6.4.3	Use of metallized parts		N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C), time (weeks) .		—
4.7	Resistance to fire		—
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	N
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	P
4.7.2	Conditions for a fire enclosure	No fire enclosure required	N
4.7.2.1	Parts requiring a fire enclosure	No fire enclosure required	N
4.7.2.2	Parts not requiring a fire enclosure		P
4.7.3	Materials		—
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures		N
4.7.3.3	Materials for components and other parts outside fire enclosures		N



Hong Kong

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
4.7.3.4	Materials for components and other parts inside fire enclosures		N
4.7.3.5	Materials for air filter assemblies	No air filter	N
4.7.3.6	Materials used in high-voltage components		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		—
5.1	Touch current and protective conductor current		—
5.1.1	General	Base and Handset supplied by SELV	N
5.1.2	Configuration of equipment under test (EUT)		N
5.1.2.1	Single connection to an a.c. mains supply		N
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N
5.1.3	Test circuit		N
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N
5.1.7.1	General		N
5.1.7.2	Simultaneous multiple connections to the supply		N
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Base and Handset supplied by SELV	N
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N
	a) EUT with earthed telecommunication ports		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
	b) EUT whose telecommunication ports have no reference to protective earth		N
5.2	Electric strength		—
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		P
5.3	Abnormal operating and fault conditions		—
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	(see appended Annex B)	N
5.3.3	Transformers	(see appended Annex C)	N
5.3.4	Functional insulation.....	Method (c) used (refer to table 5.3)	P
5.3.5	Electromechanical components	No such components	N
5.3.6	Audio amplifiers in ITE	See separate test report IEC/EN 60065	N
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment	Not a unattended equipment	N
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

6	CONNECTION TO TELECOMMUNICATION NETWORKS		—
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		—
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements	(see appended table 5.2)	N
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N

6.2	Protection of equipment users from overvoltages on telecommunication networks		—
6.2.1	Separation requirements		P
6.2.2	Electric strength test procedure		P
6.2.2.1	Impulse test	(see appended table 5.2)	N
6.2.2.2	Steady-state test	(see appended table 5.2)	P
6.2.2.3	Compliance criteria		P

6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A)		—
	Current limiting method		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		—
7.1	General		N
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N
7.3	Protection of equipment users from overvoltages on the cable distribution system		N
7.4	Insulation between primary circuits and cable distribution systems		N
7.4.1	General		N
7.4.2	Voltage surge test	(see appended table 5.2)	N
7.4.3	Impulse test	(see appended table 5.2)	N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		—
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C) ...		N
A.1.3	Mounting of samples		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N
A.2.1	Samples, material		—
	Wall thickness (mm).....		—
A.2.2	Conditioning of samples; temperature (°C) ...		N
A.2.3	Mounting of samples		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C		—
A.2.5	Test procedure		N
A.2.6	Compliance criteria		N
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

A.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		—
B.1	General requirements		N
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N
B.3	Maximum temperatures	(see appended table 5.3)	N
B.4	Running overload test	(see appended table 5.3)	N
B.5	Locked-rotor overload test		N
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.6.1	General		N
B.6.2	Test procedure		N
B.6.3	Alternative test procedure		N
B.6.4	Electric strength test; test voltage (V)		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N
B.7.1	General		N
B.7.2	Test procedure		N
B.7.3	Alternative test procedure		N
B.7.4	Electric strength test; test voltage (V)		N
B.8	Test for motors with capacitors	(see appended table 5.3)	N
B.9	Test for three-phase motors	(see appended table 5.3)	N
B.10	Test for series motors		N
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		—
	Position		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection.....		—
C.1	Overload test	(see appended table 5.3)	N
C.2	Insulation	(see appended table 5.2)	N
	Protection from displacement of windings.....		N
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		—
D.1	Measuring instrument		N
D.2	Alternative measuring instrument		N
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		—
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		—
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		—
G.1	Clearances		N
G.1.1	General		N
G.1.2	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)		N
G.2.1	AC mains supply		N
G.2.2	Earthed d.c. mains supplies		N
G.2.3	Unearthed d.c. mains supplies		N
G.2.4	Battery operation		N
G.3	Determination of telecommunication network transient voltage (V)		N
G.4	Determination of required withstand voltage (V)		N
G.4.1	Mains transients and internal repetitive peaks		N
G.4.2	Transients from telecommunication networks		N
G.4.3	Combination of transients		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
G.4.4	Transients from cable distribution systems		N
G.5	Measurement of transient voltages (V)		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network		N
G.6	Determination of minimum clearances		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		—
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		—
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		—
K.1	Making and breaking capacity		N
K.2	Thermostat reliability; operating voltage (V) ..		N
K.3	Thermostat endurance test; operating voltage (V)		N
K.4	Temperature limiter endurance; operating voltage (V)		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation	(see appended table 5.3)	N
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		—
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N
L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N
L.7	Other business equipment		N
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		—
M.1	Introduction		N
M.2	Method A		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
M.3	Method B		N
M.3.1	Ringing signal		N
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V)		N
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		—
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		—
	a) Preferred climatic categories		N
	b) Maximum continuous voltage		N
	c) Pulse current		N
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		—
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		—
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		—
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		—
		See separate test report	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		—
V.1	Introduction		N
V.2	TN power distribution systems		N
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		—
W.1	Touch current from electronic circuits		N
W.1.1	Floating circuits		N
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		—
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		—
Y.1	Test apparatus		N
Y.2	Mounting of test samples		N
Y.3	Carbon-arc light-exposure apparatus		N
Y.4	Xenon-arc light exposure apparatus		N
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		—
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		—

IEC/EN 60950-1						
Clause	Requirement + Test			Result – Remark		Verdict
BB	ANNEX BB, CHANGES IN THE SECOND EDITION					—
EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS						
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations					—
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2					—
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.					—
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC					—
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss					—

IEC/EN 60950-1															
Clause	Requirement + Test	Result – Remark	Verdict												
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		—												
2.7.2	This subclause has been declared ‘void’.		—												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		—												
3.2.5.1	<p>Replace “60245 IEC 53” by “H05 RR-F”;</p> <p>“60227 IEC 52” by “H03 VV-F or H03 VVH2-F”;</p> <p>“60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”.</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td> Up to and including 6</td><td></td><td>0,75 ^{a)}</td><td> </td></tr><tr><td> Over 6 up to and including 10</td><td>(0,75) ^{b)}</td><td>1,0</td><td> </td></tr><tr><td> Over 10 up to and including 16</td><td>(1,0) ^{c)}</td><td>1,5</td><td> </td></tr></table> <p>In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			—
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	1,5													
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table><tr><td> Over 10 up to and including 16</td><td> 1,5 to 2,5</td><td> 1,5 to 4</td><td> </td></tr></table> <p>Delete the fifth line: conductor sizes for 13 to 16 A.</p>	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4			—								
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4													
4.3.13.6	<p>Add the following NOTE:</p> <p>NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>		—												

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>		—
Bibliography	Additional EN standards.		—



ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—
----	---	--	---

ZB	SPECIAL NATIONAL CONDITIONS		—
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N

IEC/EN 60950-1																											
Clause	Requirement + Test	Result – Remark	Verdict																								
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N																								
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N																								
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N																								
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N																								
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <table> <tr> <td>SEV 6532-2.1991</td><td>Plug Type 15</td><td>3P+N+PE</td><td>250/400 V, 10 A</td></tr> <tr> <td>SEV 6533-2.1991</td><td>Plug Type 11</td><td>L+N</td><td>250 V, 10 A</td></tr> <tr> <td>SEV 6534-2.1991</td><td>Plug Type 12</td><td>L+N+PE</td><td>250 V, 10 A</td></tr> </table> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <table> <tr> <td>SEV 5932-2.1998</td><td>Plug Type 25</td><td>3L+N+PE</td><td>230/400 V, 16 A</td></tr> <tr> <td>SEV 5933-2.1998</td><td>Plug Type 21</td><td>L+N</td><td>250 V, 16 A</td></tr> <tr> <td>SEV 5934-2.1998</td><td>Plug Type 23</td><td>L+N+PE</td><td>250 V, 16 A</td></tr> </table>	SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A	SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A	SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A	SEV 5932-2.1998	Plug Type 25	3L+N+PE	230/400 V, 16 A	SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A	SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A		N
SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A																								
SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A																								
SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A																								
SEV 5932-2.1998	Plug Type 25	3L+N+PE	230/400 V, 16 A																								
SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A																								
SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A																								
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N																								
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N																								

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
6.1.2.1	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400. 		N
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N
7.3	<p>In Norway and Sweden, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.</p>		N
7.3	<p>In Norway, for installation conditions see EN 60728-11:2005.</p>		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict
ZC	A-DEVIATIONS (informative)		—
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”		N
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Power supply	Helms-Man Industrial Co., Ltd.	ED3514065030 P	Input: 230Va.c., 50Hz, 0.5A Output: 6.5Vd.c., 300mA	IEC 60950-1	CB DE 3 - 53762	
Power jack	Wenzhou Yihua Communicated Connector Co., Ltd.	6P2C	1.5A	EN 60950-1	Tested within appliance	
Phone jack	Wenzhou Yihua Communicated Connector Co., Ltd.	6P2C	1.5A	EN 60950-1	Tested within appliance	
Plastic Enclosure	Toray Industries Inc.	700	94HB, 60°C	UL 94	UL E41797	
PCB	Rayben PCB Ltd.	RB-02, RB-04, RB-05, RB-06	94V-0, 130°C	UL 94	UL E173761	
PCB ²⁾	Rayben PCB Ltd.	RB-03	94V-0, 105°C	UL 94	UL E173761	
Varistor	JOYIN	SAV-221KD07	140V	EN 60950-1	Tested within appliance	
Battery	KAIFENG	KF-AAA550H	1.2V, 550mAh, NiMH	EN 60950-1	Tested within appliance	
¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance						
²⁾ alternative component						
Supplementary information: --						

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (Vd.c.)	I (mA)	I rated (mA)	P (W)	Fuse #	I fuse (A)	Condition/status
6.5	28	300	2.57	--	--	On-hook (Charging)
6.5	26	300	2.02	--	--	On-hook (Without charging)
6.5	26	300	2.09	--	--	Off-hook (Without charging)
Supplementary information: --						

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:		U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Enclosure to charging contact (TNV)		<210	<150	1.0	2.15	1.5	2.15
Supplementary information: --							

2.10.5	TABLE: Distance through insulation measurements					N
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Supplementary information: --						

IEC/EN 60950-1									
Clause	Requirement + Test			Result – Remark				Verdict	
4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available								P	
Is it possible to install the battery in a reverse polarity position?								N	
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	112mA	550mA	134mA	1650mA	--	--
Max. current during fault condition	--	--	--	1249mA	--	1368mA	--	--	--
Test results:									Verdict
- Chemical leaks									P
- Explosion of the battery									P
- Emission of flame or expulsion of molten metal									P
- Electric strength tests of equipment after completion of tests									P
Supplementary information: --									

IEC/EN 60950-1							
Clause	Requirement + Test		Result – Remark				Verdict
4.5	TABLE: Thermal requirements						P
	Supply voltage (V)	6.5Vd.c.					—
	Ambient T _{min} (°C)	21.3					—
	Ambient T _{max} (°C)	22.6					—
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)	
Handset							
Capacitor C28 (T-85)		30.2					85
PCB near charging point		34.2					105
Enclosure (LCD)		24.7					75
Enclosure (Keypad)		29.2					75
Enclosure (Gripping area)		34.4					75
Base							
Phone jack		32.1					Ref.
Power jack		33.7					Ref.
Capacitor C53 (T-85)		39.5					85
PCB under diode D3		33.5					105
Internal wire connected to charging point (T-80)		27.5					80
Enclosure near charging point		26.8					85
Enclosure (LED)		25.1					85
Enclosure (Button)		34.0					85
Enclosure (Bottom)		32.7					85
Power supply							
Enclosure		46.9					Ref.
Supplementary information:							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information: --							

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N
	Allowed impression diameter (mm)	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information: --			

4.7	TABLE: Resistance to fire					N
	Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Supplementary information: --						

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
TNV to body enclosed by metal foil		AC	1000	No
TNV to Handset enclosed by metal foil		AC	1500	No
Supplementary information: Test voltage a.c. applied 1 minute.				

IEC/EN 60950-1			
Clause	Requirement + Test	Result – Remark	Verdict

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				21.4°C – 22.3°C	—
	Power source for EUT: Manufacturer, model/type, output rating				ED3514065030P	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Battery (Handset)	S/C	6.5Vd.c.	1 hr	--	--	No hazard until steady state. Enclosure (gripping area): 40.2°C Power supply enclosure: 34.2°C
Capacitor C28 (Handset)	S/C	6.5Vd.c.	1 hr	--	--	No hazard until steady state. Enclosure (gripping area): 52.5°C Power supply enclosure: 36.2°C
Capacitor C53 (Base)	S/C	6.5Vd.c.	1 hr	--	--	No hazard until steady state. Enclosure (bottom): 37.7°C Power supply enclosure: 65.2°C
Diode D3 (Base)	S/C	6.5Vd.c.	1 hr	--	--	No hazard until steady state. Enclosure (bottom): 31.8°C Power supply enclosure: 37.3°C
Supplementary information:						
Fault: s/c – short circuit; o/c = open circuit.						

List of Equipment			
Clause	Measurement / testing	Testing / measuring equipment / material used	Calibration date
2.5	Limited power sources	Multimeter	2008-06-22
2.1	Access to energized part	Test probe	2008-04-19
2.9	Humidity conditioning	Chamber	2009-01-16
4.2	Stress relief test	Oven	2008-10-03
4.2	Steady force test	Force gauge	2008-07-15
4.5, 5.3	Temperature tests	Temperature Recorder	2008-07-13
1.6, 4.5, 5.3	Input current, Temperature tests	Power meter	2008-08-08
4.2	Impact test, Drop test	Measuring tape	2008-07-07
--	Weight	Electronic Scale	2008-05-13

Appendix

Product Photographs

DECT20-B94-RF19



Unit: cm

DECT20-B94-RF19 (Handset)



Unit: cm

Report No. 60.860.8.048.01L

Appendix

Product Photographs DECT20-B94-RF19 (Handset)



Unit: cm

DECT20-B94-RF19 (Base)



Unit: cm

Report No. 60.860.8.048.01L

Appendix

Product Photographs

DECT20-B94-RF19 (Base)



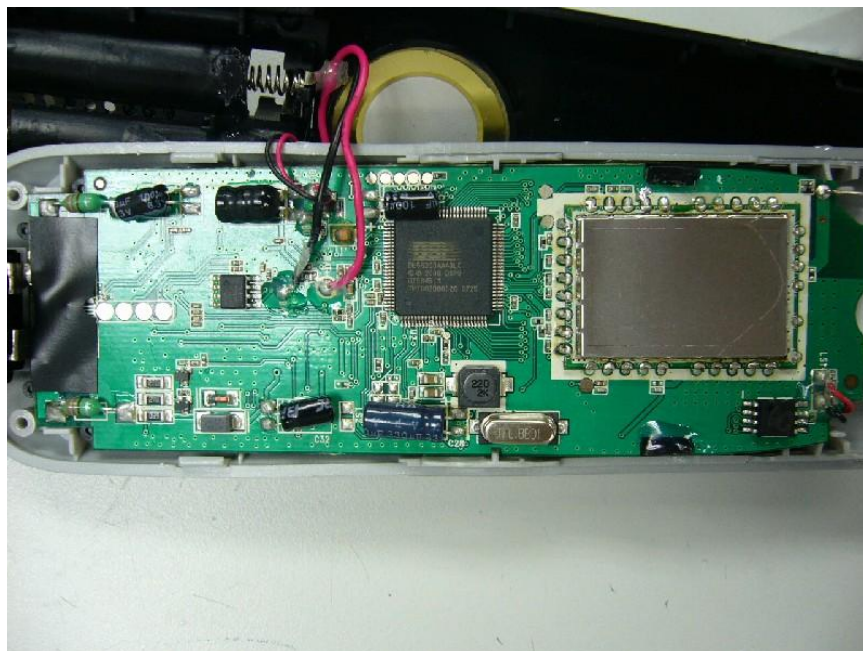
DECT20-B94-RF19 (Base)



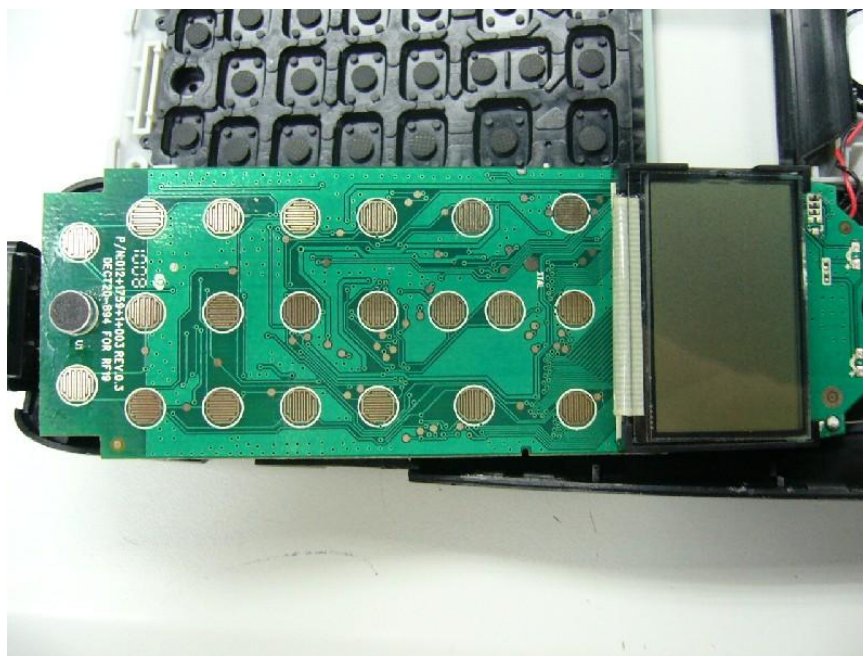
Appendix

Product Photographs

DECT20-B94-RF19 (Handset – PCB)



DECT20-B94-RF19 (Handset – PCB)



Appendix

Product Photographs

DECT20-B94-RF19 (Base – PCB)



DECT20-B94-RF19 (Base – PCB)

